Virginia Department of Health
Monkeypox: Overview for Healthcare Professionals

Organism	Monkeypox virus (an *Orthopoxvirus*)
Infective dose	Low infective dose; analogous to smallpox, presumed to be a few virions
Occurrence	• Prior to 2003, endemic to only central and West Africa • 2003, first reported monkeypox outbreak in U.S. among persons exposed to native prairie dogs that had contact with imported African rodents
Natural reservoir	Zoonotic disease. African rodents are the most likely natural reservoir.
Route of infection	• From the bite or direct contact with lesions or body fluids of an infected animal • Less frequently, from person-to-person by respiratory droplets or by direct contact with body fluids of an infected person or with virus-contaminated objects (e.g., bedding, clothing) • Airborne transmission cannot be excluded, especially from persons with cough
Communicability	• Person-to-person: Less transmissible than smallpox and likely communicable from shortly before the rash erupts to disappearance of all scabs. Most contagious before rash erupts. • Animal to human: Infected animal likely most contagious during clinical stages similar to humans, although some animals have minimal signs and symptoms of illness • Prolonged periods of viral shedding possible in both humans and animals
Risk factors	Exposure to an exotic or wild mammal or to any animal housed with exotic or wild mammal that originates from a geographic area where the occurrence of monkeypox is biologically plausible (e.g., Africa, U.S. locations where monkeypox confirmed in 2003)
Case fatality	Range from 1% - 10% in Africa. No reported deaths during 2003 U.S. outbreak.
Incubation period	• Humans: 12 days (range 7 to 14 days) • Animals: Not definitively determined. In 2003 U.S. outbreak, incubation period in prairie dogs similar to that in humans.
Clinical Manifestations	• Similar to smallpox, although often milder • Fever, headache, backache, lymphadenopathy (not commonly seen in smallpox), sore throat, cough. One to 3 days after fever onset, papular rash develops (often first on face and then spreads to rest of body). Rash lesions usually develop through several stages (e.g., vesicles, pustules) before crusting and falling off. Illness typically lasts for 2 to 4 weeks.
Differential Diagnosis (eruptive stage)	Smallpox, generalized vaccinia, chickenpox, disseminated herpes zoster, disseminated herpes simplex, erythema multiforme, contact dermatitis, enteroviral infection, molluscum contagiosum, secondary syphilis, atypical measles
Laboratory tests/ Sample collection	• Essential to contact state lab (DCLS) before collecting specimens to assure appropriate collection and transport, and to arrange for test availability at DCLS and CDC. The DCLS Emergency Services Officer may be paged 24/7 at 804-418-9923. • Those attempting specimen collection should have prior smallpox vaccination or be eligible • Appropriate infection control precautions should be taken when collecting specimens
Treatment	• Supportive care. Antibiotics for secondary skin infections. • Cidofovir (antiviral medication) available through CDC IND – consult health department
Prophylaxis and Vaccination	• Pre-monkeypox exposure vaccinia vaccination likely effective in preventing monkeypox • Post-monkeypox exposure vaccinia vaccination may be effective in preventing monkeypox • Consult with health department for guidance on vaccinia vaccination for monkeypox • Vaccinate workers providing direct patient care and/or handling infected materials
Infection Control	• Consult with health department and hospital infection control ASAP • Isolate patient and follow strict standard, contact, and droplet precautions. If possible, follow airborne precautions as well. • Establish an isolated unit of hospital to minimize exposure, if possible • Virus inactivated by 0.5% sodium hypochlorite solution (1 part bleach to 9 parts water)
Public Health	Suspected cases of monkeypox must be reported to the local health department by the most rapid means available

For more information, refer to: Monkeypox: Guidance for Healthcare Professionals, available at www.vdh.virginia.gov, or Centers for Disease Control and Prevention, http://www.cdc.gov/ncidod/monkeypox

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